UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,754	02/23/2004	Rafi Rabipour	1809/52/2	6181

25297 7590 09/28/2011

JENKINS, WILSON, TAYLOR & HUNT, P. A.
3100 Tower Blvd.
Suite 1200
DURHAM, NC 27707

EXAMINER
CHU, WUTCHUNG

ART UNIT	PAPER NUMBER
2468	

MAIL DATE	DELIVERY MODE
09/28/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/782,754	RABIPOUR ET AL.	
	Examiner	Art Unit	
	WUTCHUNG CHU	2468	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 May 2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *1-20,22 and 23* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-20,22 and 23* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/16/2011 has been entered.

Claim Status

2. Claims 1-20 and 22-23 are pending and claim 21 is canceled.

Claim Rejections - 35 USC § 103

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaffer et al., hereinafter Shaffer (US Pat. No. 6,324,409 B1) in view of Harada (US Pat. No. 7,240,000 B2) and further in view of Mauger (US Pub. No. 2001/0024960 A1).

Regarding claims 1, 16, and 17, Shaffer disclose a system and method for optimizing telecommunication signal quality **(see Shaffer col. 2 lines 18 to col. 3 lines 15 and Program instruction col. 4 line 18)** comprising: a first interface for exchanging data with a first neighboring entity **(see Shaffer figure 2 box 202 gateway and col. 6 line 8 which interfaces with box 200 TOL client)**; a second interface for exchanging data with a second neighboring entity **(see Shaffer figure 2 box 202 gateway and col. 6 lines 8-10 second interface of gateway connect to box 204 PBX)**; a memory for storing codec information regarding said communication apparatus **(see Shaffer col. 8 lines 64 to col. 9 lines 10)**; a control entity operative to detect a first message from the first neighboring entity via the first interface, the first message being indicative of codec information regarding an originating entity **(see Shaffer**

figure 4 box 400 and 404 signaling message then collects at least one capability (signal coding and compression) of the receiver); responsive to detection of the first message, the control entity being operative to perform an assessment of compatibility between the codec information regarding the originating entity and the codec information regarding said communication apparatus **(see Shaffer figure 4 boxes 406 and 408 determining an end-to-end coding scheme**); responsive to the assessment **(see Shaffer col. 7 lines 1-14 the signaling message then collects at least one telecommunication signal coding or compression capability of at least one intermediary station and figure 4 step 402),** and self-identify the communication apparatus as a candidate **(see Shaffer col. 2 lines 29-40 each entity or device capable of converting voice coding between the sender and the receiver identifies its capabilities to the signaling message and col. 7 lines 12 when the signaling capabilities of a station, the station may list its capabilities onto the signaling message).** Shaffer disclose all the subject matter of the claimed invention with the exception of:

- after a call is established;
- compatibility being positive, the control entity being operative to
- for terminally supporting a subsequent codec-bypass negotiation with the originating entity;
- compatibility being negative, the control entity being operative to
- for non-terminally supporting a subsequent codec-bypass negotiation with the originating entity.

Harada from the same or similar fields of endeavor teaches the use of: determining if same coding type and indication of whether it is the same type or not for coding-bypass communication or tandem communication **(see Harada figure 7 boxes 11-13 and col. 7 lines**

22-44), and it would have been obvious to one of ordinary skill in the art to indicate that same coding type as being positive and different type as being negative. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the determination if using the same coding **(see Harada figure 7 boxes 11-13 and col. 7 lines 31-44)** and it would have been obvious to one of ordinary skill in the art to indicate that same coding type as being positive and different type as being negative as taught by Harada and in the system and method for optimizing telecommunication signal quality of Shaffer in order to reduce the load of IP network and increase the signal quality of speech **(see Harada col. 4 lines 13-34).** Mauger from the same or similar fields of endeavor teaches the use of: if the tandem free operation mode is established after negotiation with the aim of selecting a common coding mode for that operation mode, and the negotiation was initiated on the basis of coding modes initially selected independently for each of the mobiles, and if the coding mode initially selected for at least one of the mobiles is an unauthorized coding mode, negotiation is initiated with the unauthorized coding mode for that mobile replaced by an authorized coding mode, provided that the authorized coding mode is supported **(see Mauger paragraphs [0018] and [0057]-[0060])**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the tandem free operation is established, modifying coding mode for an authorized coding mode as taught by Mauger in the modified system and method for optimizing telecommunication signal quality of Shaffer and Harada. One of ordinary skill in the art would be motivated to do so for providing optimizing speech quality by providing the authorized coding mode is supported **(see Mauger paragraph [0017]-0018])**.

Regarding claim 2, Shaffer, Harada, and Mauger teach further comprising: responsive to the assessment **(see Shaffer col. 7 lines 1-14 the signaling message then collects at least one telecommunication signal coding or compression capability of at least one intermediary station and figure 4 step 402)** of compatibility being positive **(see Harada figure 7 boxes 11-13 and col. 7 lines 31-44 and it would have been obvious to one of ordinary skill in the art to indicate that same coding type as being positive and different type as being negative)**, the control entity being further operative to release a second message towards the first neighboring entity via the first interface **(see Shaffer figure 4 box 410 send another message instructing intermediary stations to follow end-to-end coding scheme for the call)**, the second message being indicative of the communication apparatus being self-identified as a candidate **(see Shaffer col. 2 lines 29-40 each entity or device capable of converting voice coding between the sender and the receiver identifies its capabilities to the signaling message and col. 7 lines 12 when the signaling capabilities of a station, the station may list its capabilities onto the signaling message)** for terminally supporting a subsequent codec-bypass negotiation with the originating entity **(see Harada figure 7 boxes 11-13 and col. 7 lines 31-44)**. The motivation to do so is to reduce the load of IP network and increase the signal quality of speech **(see Harada col. 4 lines 13-34).**

Regarding claim 3, Shaffer and Mauger disclose all the subject matter of the claimed invention with the exception of: responsive to absence of any message from the second entity indicative of the second entity being self-identified as a candidate for terminally supporting a subsequent codec-bypass negotiation with the originating entity, effecting said subsequent codec-bypass negotiation with the first entity. Harada from the same or similar fields of

endeavor teaches the use of: indication of whether it is the same type or not for coding-bypass communication or tandem communication **(see Harada figure 7 boxes 11-13 and col. 7 lines 31-44)** and it would have been obvious to one of ordinary skill in the art at the time of the invention to use the absence of any message as indicative of terminally supporting codec-bypass. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the indication of whether the same type of coding in the codec-bypass operation **(see Harada figure 7 boxes 11-13 and col. 7 lines 31-44)** as taught by Harada in the modified system and method for optimizing telecommunication signal quality of Shaffer and Mauger in order to reduce the load of IP network and increase the signal quality of speech **(see Harada col. 4 lines 13-34).**

Regarding claim 4, Shaffer, Harada, and Mauger teach further comprising: the control entity being operative to forward the first message to the second remote entity via the second interface **(see Shaffer figure 5 boxes 504 and 506 and col. 7 lines 50-65)**.

Regarding claim 5, Shaffer, Harada, and Mauger teach the first and second interfaces are packet interfaces **(see Shaffer col. 8 lines 56-63)**.

Regarding claim 6, Shaffer, Harada, and Mauger teach the first interface is a packet interface **(see Shaffer col. 8 line 61)** and the second interface is a circuit-switched interface **(see Shaffer col. 6 lines2-26 and col. 8 line 24)**.

Regarding claim 7, Shaffer, Harada, and Mauger teach the first and second interfaces are circuit-switched interfaces **(see Shaffer col. 8 line 27).**

Regarding claim 8, Shaffer, Harada, and Mauger teach the - detect a second message received from the second neighboring entity, the second message being indicative of the second

neighboring entity apparatus being self-identified as a candidate for **(see Shaffer col. 2 lines 29-40 each entity or device capable of converting voice coding between the sender and the receiver identifies its capabilities to the signaling message and col. 7 lines 12 when the signaling capabilities of a station, the station may list its capabilities onto the signaling message)** terminally supporting a subsequent codec-bypass negotiation with the originating entity **(see Harada figure 7 boxes 11-13 and col. 7 lines 22-44 Determining if same coding type and indication of whether it is the same type or not for coding-bypass communication or tandem communication and it would have been obvious to one of ordinary skill in the art to indicate that same coding type as being positive and different type as being negative)**; responsive to detection of the second message, self-identify the communication apparatus as a candidate **(see Shaffer col. 2 lines 29-40 each entity or device capable of converting voice coding between the sender and the receiver identifies its capabilities to the signaling message and col. 7 lines 12 when the signaling capabilities of a station, the station may list its capabilities onto the signaling message)** for non-terminally supporting a subsequent codec-bypass negotiation with the originating entity **(see Harada figure 7 boxes 11-13 and col. 7 lines 22-44 Determining if same coding type and indication of whether it is the same type or not for coding-bypass communication or tandem communication and it would have been obvious to one of ordinary skill in the art to indicate that same coding type as being positive and different type as being negative)**. The motivation to do so is to reduce the load of IP network and increase the signal quality of speech **(see Harada col. 4 lines 13-34).**

Regarding claim 9, Shaffer, Harada, and Mauger teach the further comprising: the control entity being operative to forward the second message to the first remote entity via the

first interface **(see Shaffer figure 5A box 510 Gateway y sends a second signaling message to gateway X to inform gateway x of client B's and intermediate stations' capabilities and col. 7 lines 66 to col. 8 lines 16)**.

Regarding claim 10, Shaffer, Harada, and Mauger teach the further comprising: the control entity being further operative to monitor messages exchanged via the first and second interfaces that are indicative of negotiation **(see Shaffer col. 8 lines 64 to col. 9 lines 27 and col. 4 lines 5-11)** of a codec-bypass connection between the originating entity and an entity different from the originating entity **(see Harada figure 7 boxes 11-13 and col. 7 lines 31-44)**. The motivation to do so is to reduce the load of IP network and increase the signal quality of speech **(see Harada col. 4 lines 13-34).**

Regarding claim 11, Shaffer, Harada, and Mauger teach the control entity is further operative to: detect success or failure of said first negotiation; and responsive to failure of said first negotiation **(see Shaffer figure 6B box 654 is there a result with no transcoding and boxes 656 and 658 determining if there is a codec-bypass/transcoding-free operation and figure 5A box 513 send a third signaling message to inform all stations of coding scheme)**, and if the communication apparatus is self-identified as a candidate for **(see Shaffer col. 2 lines 29-40 each entity or device capable of converting voice coding between the sender and the receiver identifies its capabilities to the signaling message and col. 7 lines 12 when the signaling capabilities of a station, the station may list its capabilities onto the signaling message)** terminally supporting a subsequent codec-bypass negotiation with the originating entity, negotiate with the originating entity a codec-bypass connection between the communication apparatus and the originating entity **(see Harada figure 7 boxes 11-13 and col.**

7 lines 22-44 Determining if same coding type and indication of whether it is the same type or not for coding-bypass communication or tandem communication and it would have been obvious to one of ordinary skill in the art to indicate that same coding type as being positive and different type as being negative). The motivation to do so is to reduce the load of IP network and increase the signal quality of speech **(see Harada col. 4 lines 13-34).**

Regarding claim 12, Shaffer, Harada, and Mauger teach further comprising: responsive to success of said first negotiation, and if the communication apparatus is self-identified as a candidate or terminally supporting a subsequent codec-bypass negotiation with the originating entity **(see Shaffer figure 6B box 654 is there a result with no transcoding and boxes 656 and 658 determining if there is a codec-bypass/transcoding-free operation and figure 5A box 513 send a third signaling message to inform all stations of coding scheme**), the control entity being operative to self-identify the communication as a candidate for **(see Shaffer col. 2 lines 29-40 each entity or device capable of converting voice coding between the sender and the receiver identifies its capabilities to the signaling message and col. 7 lines 12 when the signaling capabilities of a station, the station may list its capabilities onto the signaling message)** non-terminally supporting a codec-bypass negotiation with the originating entity **(see Harada figure 7 boxes 11-13 and col. 7 lines 22-44 Determining if same coding type and indication of whether it is the same type or not for coding-bypass communication or tandem communication and it would have been obvious to one of ordinary skill in the art to indicate that same coding type as being positive and different type as being negative**). The motivation to do so is to reduce the load of IP network and increase the signal quality of speech **(see Harada col. 4 lines 13-34).**

Regarding claim 13, Shaffer, Harada, and Mauger teach negotiation being a first negotiation, wherein the control entity is further operative to: detect success or failure of said first negotiation; and responsive to success of said first negotiation **(see Shaffer figure 6B box 654 is there a result with no transcoding and boxes 656 and 658 determining if there is a codec-bypass/transcoding-free operation and figure 5A box 513 send a third signaling message to inform all stations of coding scheme)**, and if the communication apparatus is self-identified as a candidate **(see Shaffer col. 2 lines 29-40 each entity or device capable of converting voice coding between the sender and the receiver identifies its capabilities to the signaling message and col. 7 lines 12 when the signaling capabilities of a station, the station may list its capabilities onto the signaling message)** or terminally supporting a subsequent codec-bypass negotiation with the originating entity, the control entity being operative to self-identify the communication as a candidate for non-terminally supporting a codec-bypass negotiation with the originating entity **(see Harada figure 7 boxes 11-13 and col. 7 lines 22-44 Determining if same coding type and indication of whether it is the same type or not for coding-bypass communication or tandem communication and it would have been obvious to one of ordinary skill in the art to indicate that same coding type as being positive and different type as being negative)**. The motivation to do so is to reduce the load of IP network and increase the signal quality of speech **(see Harada col. 4 lines 13-34).**

Regarding claim 14, Shaffer, Harada, and Mauger teach the originating entity is an endpoint gateway **(see Shaffer col. 8 line 8 sender's gateway and figure 2 box 202)**.

Regarding claim 15, Shaffer, Harada, and Mauger teach the originating entity is an in-path gateway **(see Shaffer col. 6 lines 23-29)**.

6. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alperovich et al., hereinafter Alperovich, (US Pat. No. 6,600,738 B1) in view of Harada (US Pat. No. 7,240,000 B2) and further in view of Mauger (US Pub. No. 2001/0024960 A1).

Regarding clams 18, Alperovich discloses a routing in an IP network based on codec availability and subscriber preference **(see Alperovich col. 1 line 52 to col. 2 line 51)** comprising: identifying a target in-path gateway from among the plurality of in-path gateways **(see Alperovich figure 5 and col. 6 lines 22-38 the possible pathways which may include not only the gateway(s) or paths chosen, but also the nodes between the end destination and the chosen gateway(s))**, the target in-path gateway being the in-path gateway furthest along the path from the first gateway **(see Alperovich figure 5 and col. 6 lines 22-38 a call to be placed over the core IP network 16 of figure 1 for as long as possible).** Alperovich discloses all the subject matter of the claimed invention with the exception of:

- after a call is established;
- which is characterized by codec-bypass connection compatibility with the first gateway;
- establishing a codec-bypass connection between the first gateway and the target in-path gateway.

Harada from the same or similar fields of endeavor teaches the use of: when mobile terminals belonging to different mobile communications systems communicate with each other, a communications path is established through gateways which interconnect the two mobile communications systems. Even if the mobile communications systems employ the same speech coding process, a signal passing through a transit network is converted by a general-purpose

speech coding process such as 64 kPCM unless the gateways and the transit network are compatible with the speech coding process of the mobile communications systems **(see Harada col. 1 lines 15-25)**; determining if same coding type and indication of whether it is the same type or not for coding-bypass communication or tandem communication **(see Harada col. 7 lines 9-44 and figure 7 boxes 11-13);** establish the bypass connection from the time a call is made **(see Harada col. 9 lines 17-67).** Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the same coding type and establishing a codec bypass connection as taught by Harada in the routing in an IP network based on codec availability and subscriber preference of Alperovich in order to reduce the load of IP network and increase the signal quality of speech **(see Harada col. 4 lines 13-34).** Mauger from the same or similar fields of endeavor teaches the use of: if the tandem free operation mode is established after negotiation with the aim of selecting a common coding mode for that operation mode, and the negotiation was initiated on the basis of coding modes initially selected independently for each of the mobiles, and if the coding mode initially selected for at least one of the mobiles is an unauthorized coding mode, negotiation is initiated with the unauthorized coding mode for that mobile replaced by an authorized coding mode, provided that the authorized coding mode is supported **(see Mauger paragraphs [0018] and [0057]-[0060])**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the tandem free operation is established, modifying coding mode for an authorized coding mode as taught by Mauger in the modified system and method for optimizing telecommunication signal quality of Shaffer and Harada. One of ordinary skill in the art would be motivated to do so for providing

optimizing speech quality by providing the authorized coding mode is supported **(see Mauger paragraph [0017]-0018]**).

Regarding claims 19, Alperovich, Harada, and Mauger teach further comprising: performing a determination of whether the target in-path gateway is involved in a prior codec-bypass connection with the second gateway **(see Harada col. 7 lines 9-44 and figure 7 boxes 11-13 and col. 1 lines 15-25)**; wherein performing the establishing is conditional upon said determination being negative **(see Harada figure 7 boxes 11-13 and col. 7 lines 22-44 Determining if same coding type and indication of whether it is the same type or not for coding-bypass communication or tandem communication and it would have been obvious to one of ordinary skill in the art to indicate that same coding type as being positive and different type as being negative)**. The motivation to do so is to reduce the load of IP network and increase the signal quality of speech **(see Harada col. 4 lines 13-34).**

Regarding claims 20, Alperovich, Harada, and Mauger teach the target in-path gateway being a first target in-path gateway, the method further comprising: responsive to said determination being positive **(see Harada figure 7 boxes 11-13 and col. 7 lines 22-44 Determining if same coding type and indication of whether it is the same type or not for coding-bypass communication or tandem communication and it would have been obvious to one of ordinary skill in the art to indicate that same coding type as being positive and different type as being negative):** identifying a second target in-path gateway from among the plurality of in-path gateways, the second target in-path gateway being the in-path gateway furthest along the path from the first gateway **(see Alperovich col. 6 lines 30 the physical geographical area of the available gateways may be divided into zones, and further into**

subzones, to allow the PSC server 37 to select a gateway in closest proximity to the end destination) which is characterized by codec-bypass connection compatibility with the first gateway and which is not involved in a codec-bypass connection with the second gateway **(see Harada col. 7 lines 9-44 and figure 7 boxes 11-13)**; establishing a codec-bypass connection between the first gateway and the second target in-path gateway instead of with the first target in-path gateway **(see Harada col. 9 lines 17-67)**. The motivation to combine is to reduce the load of IP network and increase the signal quality of speech **(see Harada col. 4 lines 13-34).**

7. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Alperovich et al., hereinafter Alperovich, (US Pat. No. 6,600,738 B1) in view of Harada (US Pat. No. 7,240,000 B2) further in view of Shaffer et al., hereinafter Shaffer, (US Pat. No. 6,324,409 B1) and furthermore in view of Mauger (US Pub. No. 2001/0024960 A1).

Regarding clams 22, Alperovich discloses a routing in an IP network based on codec availability and subscriber preference **(see Alperovich col. 1 line 52 to col. 2 line 51)** comprising: identifying a first sub-path between the first gateway and a first target in-path gateway from among the plurality of in-path gateways **(see Alperovich figure 5 and col. 6 lines 22-38 the possible pathways which may include not only the gateway(s) or paths chosen, but also the nodes between the end destination and the chosen gateway(s))**, the first target in-path gateway being the in-path gateway furthest along the path from the first gateway **(see Alperovich figure 5 and col. 6 lines 22-38 a call to be placed over the core IP network 16 of figure 1 for as long as possible)** identifying a second sub-path between the second gateway and a second target in-path gateway from among the plurality of in-path gateways, the second target

in-path gateway being the in-path gateway furthest along the path from the second gateway **(see Alperovich col. 6 lines 30-35 the physical geographical area of the available gateways may be divided into zones, and further into subzones, to allow the MSC server 37 to select a gateway in closest proximity to the end destination).** Alperovich discloses all the subject matter of the claimed invention with the exception of:

- after a call is established;
- which is characterized by codec-bypass connection compatibility with the first gateway;
- which is characterized by codec-bypass connection compatibility with the second gateway;
- determining the lengths of the first and second sub-paths;
- if the first sub-path is longer than the second sub-path, establishing a codec-bypass connection between the first gateway and the first target gateway;
- if the second sub-path is longer than the first sub-path, establishing a codec-bypass connection between the second gateway and the second target gateway.

Harada from the same or similar fields of endeavor teaches the use of: when mobile terminals belonging to different mobile communications systems communicate with each other, a communications path is established through gateways which interconnect the two mobile communications systems. Even if the mobile communications systems employ the same speech coding process, a signal passing through a transit network is converted by a general-purpose speech coding process such as 64 kPCM unless the gateways and the transit network are compatible with the speech coding process of the mobile communications systems **(see Harada col. 1 lines 15-25)**; determining if same coding type and indication of whether it is the same type

or not for coding-bypass communication or tandem communication **(see Harada col. 7 lines 9-44 and figure 7 boxes 11-13);** establish the bypass connection from the time a call is made **(see Harada col. 9 lines 17-67).** Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the same coding type and establishing a codec bypass connection as taught by Harada in the routing in an IP network based on codec availability and subscriber preference of Alperovich in order to reduce the load of IP network and increase the signal quality of speech **(see Harada col. 4 lines 13-34).** Shaffer from the same or similar fields of endeavor teaches the use of: select result with most number of hops with compressed coding **(see Shaffer figure 6B box 662 and col. 9 lines 40-46),** which allows to determine the number of hops between two sub-paths and selecting result with the most number of hops or longer**.** Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the selecting result with the most number of hops with compressed coding **(see Shaffer figure 6B box 662 and col. 9 lines 40-46)** as taught by Shaffer in the modified routing in an IP network based on codec availability and subscriber preference of Alperovich and Harada in order to optimize telecommunication signal quality **(see Shaffer col. 3 lines 5-15)**. Mauger from the same or similar fields of endeavor teaches the use of: if the tandem free operation mode is established after negotiation with the aim of selecting a common coding mode for that operation mode, and the negotiation was initiated on the basis of coding modes initially selected independently for each of the mobiles, and if the coding mode initially selected for at least one of the mobiles is an unauthorized coding mode, negotiation is initiated with the unauthorized coding mode for that mobile replaced by an authorized coding mode, provided that the authorized coding mode is supported **(see Mauger paragraphs [0018] and [0057]-[0060])**.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the tandem free operation is established, modifying coding mode for an authorized coding mode as taught by Mauger in the modified system and method for optimizing telecommunication signal quality of Shaffer and Harada. One of ordinary skill in the art would be motivated to do so for providing optimizing speech quality by providing the authorized coding mode is supported **(see Mauger paragraph [0017]-0018]**).

Regarding claims 23, Alperovich, Harada, Shaffer, and Mauger teach the further comprising: if the first sub-path is not longer than the second sub-path and the second sub-path is not longer than the first sub-path **(see Shaffer col. 9 lines 47-51 if there is another tie with results which allow the call to be made with the most number of hops with compressed coding(step 664 of figure 6B)**: determining the priorities of compatibility of the first target gateway with the first gateway and of the second target gateway with the second gateway **(see Shaffer col. 9 lines 49-51 then the tied results are analyzed and the one which is listed higher in the preference list of preferred coding methods is selected (step 666 of figure 6B))** and if the compatibility of the first target gateway with the first gateway has a greater priority than the connection compatibility of the second target gateway with the second gateway, establishing a connection between the first gateway and the first target gateway **(see Shaffer col. 9 lines 49-55 then the tied results are analyzed and the one which is listed higher in the preference list of preferred coding methods is selected (step 666 of figure 6B))**; if the connection compatibility of the second target gateway with the second gateway has a greater priority than the connection compatibility of the first target gateway with the first gateway, establishing a connection between the second gateway and the second target gateway **(see**

Shaffer col. 9 lines 49-55 then the tied results are analyzed and the one which is listed higher in the preference list of preferred coding methods is selected (step 666 of figure 6B)). The motivation to combine is to optimize telecommunication signal quality **(see Shaffer col. 3 lines 5-15)**.

Response to Arguments

8. Applicant's arguments with respect to claims 1-20 and 22-23 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Graf et al. (US Pub No. 2003/0195981 A1) teaches a re -negotiation of the connection with a new list of coding schemes is allowed in the network, the result can be a coding which was not negotiated at connection establishment, e.g. the modified coding scheme is not contained in the GSM coding scheme list to support TFO ([0053]).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WUTCHUNG CHU whose telephone number is (571)272-4064. The examiner can normally be reached on 9am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joe H. Cheng can be reached on (571) 272-4433. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WUTCHUNG CHU/
Examiner, Art Unit 2468

/Joe H Cheng/
Supervisory Patent Examiner
Art Unit 2468